ment. Symptoms of cerebral compression developed gradually; also impaired vision in right eye. A tumor in left frontal lobe was diagnosed and operation decided upon. A quadrangular piece was desected from the left frontal bone, temporarily. The skin was attached; the base of flesh was toward the temporal region. The bone was divided with a chisel. The exposed dura mater showed no pulsation. On the membranes being incised a mass of brain substance at once protruded through the opening. Reducation was attempted without success. It was excised, but another projection followed. Exploration of the brain with a trochar was attended with drawing off successfully about four ounces of clear fluid containing albumen. The patient rapidly recovered. Memory returned, pain disappeared, and sight improved on right side. Atrophy of the optic nerve on left side produced blindness in left eye. The case was of tolerably acute hydrocephalus, the cause and origin of which was obscure. F. P. N.

PATHOLOGICAL.

The Influence of Suspension on Disturbances of Vision Dependent on Affections of the Spinal Cord (Bechterew, *Neurologisches Centb.*, April 1, 1893).

The Importance of Suspension in Some Affections of the Spinal Cord (Bechterew, *Neurologisches Centb.*, September 5, 1893).

In these two recent communications, Bechterew attempts to stem the tide that has been ebbing away from suspension as a therapeutic factor during the last two years. His enthusiasm does not carry him so far in his claims for its efficacy as did its advocates of 1889 and 1890. At that time its virtues were proclaimed in locomotor ataxia alone. Bechterew, however, demands an increase for its field of usefulness, and claims beneficial results, not alone in tabes dorsalis, but likewise in other spinal cord affections, especially in compression of the spinal cord, compression myelitis, long standing cases of syphilis of the spinal cord, and in transverse myelitis. In compression of the spinal cord, and in compression myelitis, he has seen better results follow after one application of suspension than from treatment for months by the ordinary methods. The apparatus used for making the suspension was that described by Sprimon.

This apparatus consists of an upright about eight feet high, at the top of which is a grooved wheel; over this wheel runs a rope, to which, behind, are attached graduated weights, and in front a bar, to which are attached the straps that suspend the patient from the semi-flexed elbows and from the chin and occiput. On the front of the upright is fixed a seat, at a distance from the floor that will allow the patient to sit comfortably and naturally. Suspension is made, with the patient in the sitting posture, by increasing the weight at the other end of the rope. The duration of the suspension seance depends on the amount of weight used. In general, however, they vary from five to fifteen minutes. Bechterew has seen remarkable improvement from the use of suspension, in cases with partial loss of vision, dependent on spinal cord trouble. He details three cases. The first, a man forty-three years old, not syphilitic, who presented a complete picture of tabes dorsalis. The pupils were small and did not react to light; vision was greatly diminished; could not read, except with very strong glasses; first suspension with eighty-pound weight for ten minutes. During the suspension the patient was sleepy, but immediately after he spoke of a very pleasurable feeling of well-being. After the sixth sitting all the symptoms showed a great improvement, more especially the eye symptoms. The patient could read very easily without glasses. In all, he received twenty-seven suspensions. When seen, three months after the last sitting, the improvement previously noted still continued. Second case, twenty-nine years old; not syphilitic; symptoms of tabes dorsalis. Eyesight had been failing for four years, and during latter few months it had progressed very rapidly. Opthalmoscopic examination showed marked optic atrophy of right eye, and less in the left. Previously, under the influence of strychnia, the vision had improved, but it soon after failed again. This patient had twelve sittings of suspension. His vision improved after the first, the second and the third; after that it remained in statu quo ante. The third patient, a female, twenty-five years old, had, during the four previous years, ten attacks of convulsions, attended with loss of consciousness. After these she had right hemicrania, and an attack of facial paralysis. Opthalmoscopic examination showed an inflammatory hyperæmia of both optic nerves, especially the right. The patient suffered from tubercular caries of the lower dorsal and upper lumbar vertebræ, and had, as a result, partial pressure paraplegia.

Vision of left eye, normal; of right eye, $\frac{15}{70}$—$\frac{4}{30}$. After the first suspension, V. R., $\frac{15}{40}$—$\frac{9}{30}$. Visual field of right eye considerably contracted before suspension, and nearly normal after. After three sittings, the vision in the right eye was improved to $\frac{17}{40}$—$\frac{9}{20}$.

The author reaches the conclusion that there is no doubt but that in certain cases suspension exercises an important and beneficial influence on the disturbances of vision attending such cases, even when the disturbance is dependent on organic change within the eyes. As to the way in which suspension acts beneficially, Bechterew accepts the conclusions of Bogrow and Slunin, which are as follows: [1]The blood pressure is raised during suspension. [2]As a result of suspension, hyperæmia of the central nervous system results.

Bechtererr insists on the discarding of the old method of suspension, on account of the danger associated with it and its inadequacy. The advantages of suspending the body from the elbows are that no pressure is exerted upon great blood vessels and nerve trunks, as there is when the shoulder-straps are used; that accidents are not liable to happen, and that the stretching of the back is more extensive.

In addition to the apparatus described above, a cut is given in the second article of a modification of Sprimon's apparatus, in which a bar is substituted for a wheel at the top of the perpendicual. This bar is placed horizontally to the upright, and fixed on its axis at the first one-third of the distance; that is, to the short end of the lever is attached the harness for the patient, and to the long end, behind, the weights. Its construction is exactly that of "old oaken bucket" water-drawing apparatus. J. C.